

Example 7. A $6.0 \mu\text{C}$ charge and a $4.5 \mu\text{C}$ charge are positioned 1.6 cm apart. If the smaller charge is removed, what is the electric field strength at the location of the $4.5 \mu\text{C}$ charge, due to the larger charge?

$$E = \frac{kQ}{r^2} \quad \leftarrow \text{use } 6.0 \mu\text{C} \text{ charge}$$

$$= \frac{(9 \times 10^9)(6 \times 10^{-6})}{.016^2}$$

$$E = 2.1 \times 10^8 \text{ N/C}$$